parative study of myths current among American Indians and in the interpretation of them.

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The Genus Phoradendron. By WILLIAM TRELEASE, Professor of Botany in the University of Illinois. Published by the University. Octavo, pp. 224, pls. 245. Price, paper, $2.00; cloth, $2.50.

It is fortunate for botanists that the author of this excellent treatise has made so thorough a revision of the genus *Phoradendron* instead of being content with merely attempting to straighten out the tangle existing in regard to the group of related forms hitherto known as *Phoradendron flavescens,* as he first contemplated. The author notes that Engelmann has shown too great a conservatism in his published studies of the various forms of species of the genus, by later withdrawing segregates of *P. flavescens* that he formerly had recognized, and that in continuing the work of Engelmann, also being influenced by his views, Torrey allowed a number of forms which he had designated as new species to lie unpublished in the Torrey herbarium. The author in addition to making a critical study of the abundant data and material of North American species collected by Engelmann, Torrey and others in the great herbaria of this country, visited those of Europe and extended the investigation to the collection of West Indian and South American species by Urban, Martins and others. This has enabled him to make a careful comparison of numerous types and variants of species of the genus, and to more carefully discriminate between varieties and species. He recognizes 262 differentiable forms, most of which he has classified as species. In this matter he apparently does not share the conservatism of Engelmann and Torrey. Of the species he now recognizes, 154 are listed from North America and 124 from South America. The genus is separated into two primary groups, the Boreales and the Æquatoriales, plants of the former are constantly without, and the latter constantly with cataphyls on their foliage shoots. Both groups contain species destitute of expanded foliage, which are well represented by *Phoradendron juniperinum* in the southwestern United States. All of our species belong to the Boreales, those of Mexico and Central America to both primary groups, and those of the West Indies and South America wholly to the Æquatoriales. These primary groups are each divided and then subdivided, making finally in all groups 55 minor subdivisions.

The book contains 224 pages of descriptive matter including very good and usable keys; these are supplemented by indexes of collectors, occurrence, and names. The illustrations, 245 full sized plates, are indeed works of art but are also true to nature. Few books of this class are so fully and beautifully illustrated. GEORGE G. HEDGCOCK

MECHANICAL PROPERTIES OF WOOD DETERMINED

A NUMBER of fundamental laws governing the properties of wood, such as those covering the relations between strength and specific gravity, and between strength and moisture content, are laid down in a bulletin just issued by the Department of Agriculture. In this publication are presented the results of about 130,000 strength tests, probably the largest single series ever run on one material, made by the Forest Products Laboratory of the Forest Service on 126 species of American woods. The laws derived from the tests cover the general relations existing between mechanical and physical properties of each species, and also the general relations existing between these properties irrespective of species.

The results ought to prove of great value wherever knowledge of the properties of wood is essential. They have, for example, made possible the preparation of accurate tables showing all the needed strength properties for the woods used in airplanes. With these as a basis, specifications can be drawn up to eliminate all material that does not meet the exacting requirements of this highly specialized use.

The data also permit of the proper choice of substitutes for woods which have become scarce or unobtainable. Here again the airplane may be cited, since the supplies of some woods ordinarily used in airplane construction are insufficient to meet the present building program of the United States and its allies.

Among the relations between mechanical and physical properties of wood for which laws have been obtained are static bending-specific gravity, impact bending-specific gravity, compression parellel to grain-specific gravity, compression perpendicular to grain-specific gravity, static bending-moisture content; impact bending-moisture content, compression parallel to grain-moisture content, compression perpendicular to grain-moisture content, shrinkage-moisture content.

The bulletin, the authors of which are J. A. Newlin and Thomas R. C. Wilson, is entitled "Mechanical Properties of Woods Grown in the United States," and is No. 556 in the Department of Agriculture series.

SPECIAL ARTICLES

A CONVENIENT NERVE HOLDER

FOR several years past in this laboratory experiments on chemical stimulation have formed a part of the routine students' work on the physiology of muscle and nerve. In these experiments we have used a nerve holder

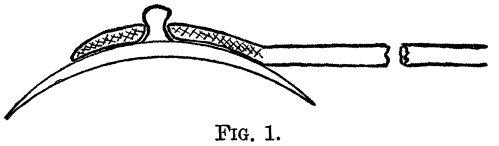

FIG. 1.

which has proved so simple and convenient that it seems desirable to suggest it to others. In its first form it consisted merely of a thin watch-glass 45 to 50 mm. in diameter, cemented by sealing-wax to the flattened end of a piece of ¼ inch lead wire 12 inches long.

If the muscle of a gastrocnemius-sciatic preparation is mounted on a muscle lever, the edge of the watch-glass may be brought very near to the muscle and the whole nerve may be allowed to lie in the liquid to be applied, as for example, a solution of sodium citrate or barium chloride.

The construction is so simple, requiring no special skill and only a few minutes of time, that it was used in this way for two or three years. Later, Mr. L. A. Ray, technician, devised the following more permanent construction. A small bit of glass rod is fused to the bottom of the watch-glass. The rod is then melted and pulled in two at a point about ⅛ to ¼ inch from the bottom of the glass, and is held in the flame till a small knob forms on the end. A hole is punched in the flattened end of the lead rod, the glass rod is inserted and the joint made fast with cement. The knob on the end of the glass is held firmly in place by the cement. The accompanying figure of a section of watch-glass and rod will make the whole arrangement perfectly obvious.

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THE URINE OF THE HORNED LIZARD

VAUQUELIN,[1] in reporting the first analysis of reptilian urine, in 1822, stated that it was composed almost entirely of uric acid, and since that time this fact has been interpreted by various observers as an adaptation to the conditions of life in arid regions, where animals obtain their only external water supply in very limited quantities in the food substances, as this type of nitrogenous excretion involves practically no water loss. The reptiles of arid regions have been known for some time to excrete practically all of their waste nitrogen in the form of uric acid and its salts, while, on the other hand, birds and aquatic and semi-aquatic reptiles may excrete considerable amounts of urea.

[1] Vauquelin, Louis Nicolas, "Examen des excrémens des serpens que l'on fait voir en ce moment à Paris, Rue Saint-Nicaise," *Annales de Chimie et de Phisique. 2me Serie,* Tome 21, p. 440, 1822. Two boas, species not stated, were the source of the urine examined in this case. Uric acid had also been associated with reptiles as early as 1793, when a "pasty deposit" found in the bladder of a tortoise by Vicq-d'Azyr was found to contain this substance.